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# Engineer Update

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## USACE 2012 explained in plain English

**(Editor's note – Many Corps of Engineers employees have expressed a need for a plain-English explanation of USACE 2012. Here it is. This article is condensed from remarks given by Lt. Gen. Robert Flowers, Chief of Engineers, during a town hall meeting at Headquarters on Dec. 10.)**

What's USACE 2012 all about? Why are we doing it? Those are my most frequently asked questions; so let me give you a quick history.

Before I became Chief of Engineers, I asked the Corps' historian, Dr. Paul Walker, to look back over the times that the Corps tried to reorganize, and how we had dealt with it.

One thing that became clear to me was that during my tenure as Chief of Engineers I did **not** want to do any reorganization! I wanted my legacy to be the Project Management Business Process (PMBP), the power of teams and the improved capability of teams, and P2, the common enabler that would set the stage for our organization to operate virtually. (Operating virtually means working together through electronic communications, rather than working face-to-face.)

But about two years ago, the division commanders jumped on me at Fort Leonard Wood at ENFORCE and said, "Chief, we don't have enough people in the Headquarters in Washington or in the division headquarters to do the job."

So I said, "OK, tell me what you need."

Some asked for as few as 15 people, some asked for as many as 35. And those of you who have been in Headquarters for a while know we've taken some hits in the past few years, so there was a good-sized bill there as well.

So I pulled this all together and justified it based on our manning documents, and on the roles and missions of headquarters in the divisions and in Washington. Then I went to Congress and said, "I need some more General Expense funds and Operation & Maintenance, Army funds."

And Congress said, "Lt. Gen. Flowers, you've got to be kidding if you think we're going to give you more money for overhead, unless you can show us how this will make your districts more effective."

### Stockton Report

So I called my old softball partner from my days in Portland District, Steve Stockton. I said, "Steve, I need you to run a study for me. I want you to look at command and control. Start with the Witherspoon Report that came out in the mid-'90s, and think out of the box. Make it a broad-based study; bring in people from across the Corps and outside the Corps. Look out about 10 years, and make some recommendations on how we might more effectively command and control."

So he did. It was called the Stockton Report. But when everyone looked at it, they basically threw up on it. No one liked it, because it was change. So Steve decided he no longer wanted his name associated with the study, and he changed the name of the study from the Stockton Report to USACE 2012.

That name is **not** a good descriptor. It probably should be USACE 2003 or 2004, but that name has stuck and we're going with it. So that's how the name came about.

### Burning platform

But after we got comments back on USACE 2012, I had an off-site at Fort Belvoir, Va., with the senior leaders, and we had our customers and stakeholders come in



**Lt. Gen. Robert Flowers, Chief of Engineers, talks to Headquarters employees during the town hall meeting. (Photo by Marti Hendrix, HECSA)**

and talk to us. Our customers and stakeholders said, "You all aren't listening." They sent two very clear messages. One, "You've got great people in the Corps of Engineers and we love working with them." But the second message was, "Your processes are daunting; we don't understand them. You don't partner like a partner. When we deal with one part of the Corps, it's not like dealing with another part. We're frustrated!"

It was then that I realized that I was standing on a burning platform. I could stand there and hope that it held until the 51<sup>st</sup> Chief of Engineers showed up, or I could grab a fire extinguisher called USACE 2012 and fight the fire.

And I went for the latter.

So we directed a functional area assessment be done after this off-site. We looked at every area of the Corps—civil works, military programs, public affairs, HR, counsel. We took all the recommendations and gave them to the Process Committee. The ProCom gave it to the senior leaders at our Senior Leaders Conference last August, and I made every senior leader tell me what they thought. We did something called a Samoan Circle, and what came out was USACE 2012 as you see it today.

### Working together

It's a radical departure, but everything we're doing under USACE 2012 is being done someplace in the Corps of Engineers today with great success. What we're doing is expanding those successes to the entire organization. What it's all about is acting as one Corps, and operating virtually. We will always deliver through the district where the work resides, but some of the effort and process may be done in other places.

We've been moving down this road for a while. I remember when I came in as commander of what was then the Lower Mississippi Valley Division. One of my districts was completing a very large program of locks and dams on the Red River in Louisiana, and they were looking at a RIF (Reduction In Force). But the neighboring

district was hiring like crazy, because they were beginning a major program that would use the same types of employees.

So I said, "Why don't we just take the work and move it from this district to that district so we don't have to RIF and we don't have to hire?" And you would have thought I had stepped on somebody's grave. The district said, "It's our turn now." I said, "What do you mean, 'It's your turn now?' Isn't this us? We?"

And when I looked at the workload across my division, my districts went up and down from year-to-year, depending on how much work was funded. But across the division, the curve was much flatter. So it didn't take a rocket scientist to say, "If I could operate regionally, and move work around, I could put a lot more consistency and sanity into my employees' lives."

And I remember visiting my area office in Shreveport, La., when I was a division commander. There was three Corps offices in Shreveport — one on Barksdale Air Force Base that did military construction at Barksdale. There was an HTRW office doing a Superfund clean-up. And there was my area office.

So I went to my area office and asked, "How often do you get together with the other Corps offices here in town?" And they said "What Corps offices?"

### Regional Business Center

So we told Lt. Gen. Ballard in '96, "Boss, we've got to change this. You've got to enable us to operate more regionally." So he established Regional Business Centers, and some of our divisions have been operating very well as RBCs, moving around hundreds of millions of dollars in work every year. The Regional Business Center is the focal point of USACE 2012, and everything we do through the RBCs will enable executing districts to deliver better products, faster.

### Teams and integration

Something else that came up, about a year ago. I was visiting one of our districts that has both civil works and military programs, and the district engineer said, "Sir, this came down three weeks ago through Civil Works, and there are resource implications for my district. Then two days ago I got this through Military Programs and it has resource implications. And we just got *this* down through Human Resources, and Counsel sent us *this*! It doesn't seem to me that the left hand knows what the right hand is doing."

So when I came back to Headquarters, I got the senior leadership together and asked, "Where in this Headquarters is the first place that we integrate what we send down to divisions and districts?"

And the answer was, "On your desk, sir."

And if you looked at the way we were organized with wiring diagrams, that's the way it was. Something came up to the Director of Military Programs, and the director could either sign it or give it to the Chief to sign, and it would get in. Same thing in Civil Works. All very well intentioned. It just wasn't coordinated.

Well, we've got to change that. So under USACE 2012, there are no more stovepipes. When you look at how this Headquarters is organized under USACE 2012, you don't see a wiring diagram. You see parachutes and circles and bubbles and it looks weird, because it's different. What we want to be is a team of teams that enables those Regional Business Centers.

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# Corps employee honored for rescuing child from burning house

*'The other man  
told me not to go  
back in, but I had  
to do something.'*

By Sherrill Storm  
Wilmington District

Heroism in saving a child trapped in a burning house earned Steve Carroll, a powerhouse employee at John H. Kerr Reservoir, honors in South Hill, Va.

On Nov. 11, Carroll and another man were working on the roof of a bathroom addition that their church group had volunteered to build for a disabled teenager when they saw black smoke billowing from a window of the house next door.

"We just reacted when we saw the smoke, called nine-one-one, and got off the roof," said Carroll.

A woman and two children were on the lawn, and the woman was screaming that her child was still inside, saying that her child was on the bed near the window where the thick black smoke billowed out.

## Fighting smoke

Carroll and the other man ran to the window and took turns leaning into the room feeling for the bed. "It was an old house, and it was going up quick," said Carroll. "One whole wall near the bed was on fire."

They were choked and blinded by the smoke, and the heat and flames were unbearable, even though the South Hill firefighters had arrived in about a minute after the nine-one-one call and were fighting the fire.

"We both reached in several times feeling for the bed, then backed out to catch our breath," said Carroll. "The bed wasn't as close to the window as they thought. More like in the middle of the room."

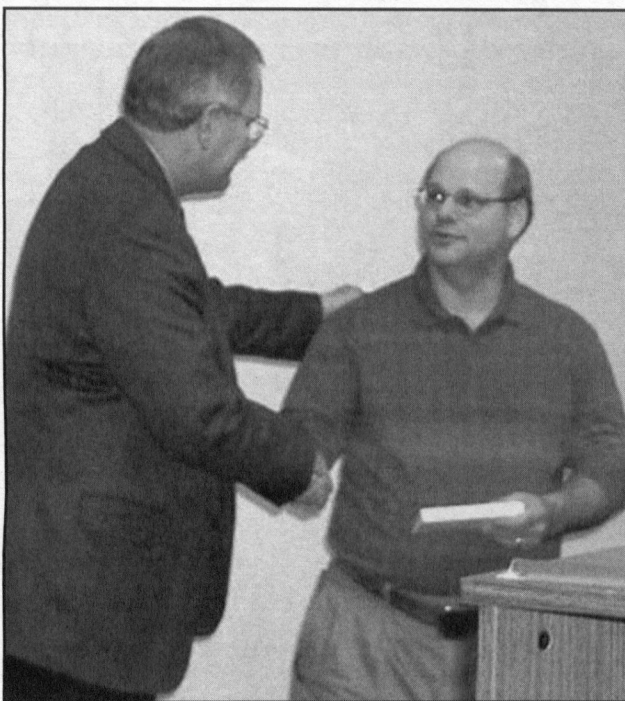
They could not find the bed by feel in the smoke. "I decided to try one last time," said Carroll. "The other man told me not to go back in there, but I had to do something. The wind shifted a little, and I was able to slide in a little further."

Carroll felt the bed and pulled it toward the window. He caught the edge of the blanket and, with the help of the other man, pulled it into the air. As they pulled, the child rolled out into Carroll's arms.

## Happened fast

"It all happened very fast," Carroll said. "From the time we saw the smoke until we pulled her out was maybe three or four minutes."

By that time the Southside Rescue Squad had arrived. As Carroll turned the child over to them, he could see that she was unconscious, struggling to breathe, and



Earl Horne, the Mayor of South Hill, Va., thanks Steve Carroll, a powerhouse employee at John H. Kerr Reservoir. Carroll was honored for rescuing a child from a burning house in South Hill on Nov. 11. (Photo courtesy of Wilmington District)

burned over 80 per cent of her body.

"I don't know if we felt more helpless before or after we got the baby out," said Carroll. He collapsed on the lawn to rest and catch his breath as the rescue squad transported her to Community Memorial Health Center.

Chanaya Latrice Brooks-Brodax, aged 12 months, was then airlifted by LifeEvac helicopter to the Medical College of Virginia Hospitals in Richmond, where she later died from her injuries.

## Mystery man

Carroll's heroism went unacknowledged for almost a month. The South Hill *Enterprise* newspaper reported the tragedy, but no one knew the identity of the rescuers, and Carroll is a quiet, humble man who felt he was just doing what had to be done and did not need recognition.

But members of the Southside Rescue Squad wrote a letter to the *Enterprise* thanking the unknown rescuer. Carroll sent them a thank you note, and someone on the rescue squad took the note to Earl Horne, the Mayor of South Hill.

## Indeed a hero

On Dec. 8 Horne invited Carroll to his office, and he went, not knowing that the news media would be there. Horne told Carroll "You are indeed a hero for your acts that day," and presented him the key to the city.

(Sherrill Storm is a park ranger at John H. Kerr Reservoir.)

## Insights

# 'Always give more than you take from life'

By Col. Mark Fentress  
Chaplain, U.S. Army Corps of Engineers

There is a story of an old man and his son who were making a long journey on foot. One afternoon, hot and tired, the father said that he must stop and rest. So they sat down along a dusty road.

"Oh, for the cool shade of a tree," the young man said.

"Yes, that would be heavenly," the old man responded. "Let's plant one."

"You're overcome by the sun, father," replied his son. "It would not spring up during this hour and provide us with shade."

"No, but if I plant a seed today, future travelers will rest here in comfort," said his father. "Remember, my son, to always give more than you take from life. It is the secret of happiness."

Dear friend, that old man was wise indeed, for it is true that the givers in life are the happiest folk alive. For they have discovered the ultimate secret of true happiness — that you cannot out-give God, you cannot bless others without being blessed, and you cannot love without being loved.

That radiant little lady, Mother Teresa, knew such exquisite and deep joy in her life, for she literally lived to share God's love with "the forgotten others" on the dirty streets of Calcutta. May we never forget the abiding wisdom of her example that "It is more blessed to give than to receive."

May God bless you richly as you start the adventure of the New Year of 2004 with a caring and giving heart!

**Prayer** — Lord God, make us free-flowing rivers of Your love as we journey through life. Be a near and ever-present strength and protector to those members of the Corps family serving overseas, and hold their loved ones always in the safety and watch-care of Your strong and everlasting hands. **Amen**

In faith and friendship,  
**Chaplain Mark**

(The opinions expressed in this article are those of the writer and do not reflect the official policy or position of the U.S. Army Corps of Engineers, the Department of the Army, the Department of Defense, or the U.S. government.)



# 'Trash Lady' cleans up Baghdad

By Mike Tharp  
Los Angeles District

Meet the "Trash Lady of Baghdad," also known as "The Rubble and Demolition Lady." The Australian troops called her "Trash and Trouble."

Susan Tianen, Chief Safety Officer of Los Angeles District, spent four months in Baghdad. She was shot at three times, saw a colleague wounded in an ambush, lost her closest Iraqi counterpart to assassins, and recoiled from negative stories in two major newspapers about her work.

She also ramped-up the Baghdad's most efficient sanitary system in decades, deploying everything from donkey carts to satellite photos to clean up the mess. She began a rubble removal and building demolition program that ultimately brought her to the smoldering ruins of the suicide-bombed U.N. headquarters. She compiled a compact disk of haunting images of Iraqi children that was shown at the international donors' conference in Spain.

**Heavy load.** "The load we carried was really, really, really heavy, and you're 100 percent dependent on your team, your interpreter, your buddies, your soldiers," Tianen recalled.

Tianen, whose safety resume includes dealing with hazardous waste and industrial material, was stunned when she arrived in Baghdad. Not so much at the ravages of war as the ignorance among many Iraqis about how their garbage could make them sick.

"There was no connection between disease, infant mortality rates, and sanitation," she said. "They didn't have the education and information telling them that you don't slaughter livestock next to where you sell produce."

Ranging out into the unsettled city five days a week, Tianen first attacked the trash issue as if it were a math problem. What's the population of Baghdad and how much trash is generated? Around five million and 22,113 tons a week, respectively, including the airport, central marketplace, and prisons. How much was needed to haul it away? That calculated out to 1,460 vehicles making 4,290 trips a week to the dump.

Which dump? Throughout the Saddam era, the main dump was 20 miles northeast of Baghdad, in a landfill purposely planted above a water table used for drinking by the local Shiite population. (The old regime favored Sunnis over Shiites.) The landfill at what was once called Saddam City (now Sadr City) contaminated the Shiites' water, but it also provided jobs and resources for 150,000 people.

**Piles of trash.** But tons of trash never made it to any dump. Tianen saw one pile stacked six stories high in a narrow suburban lane. Had it been removed, the walls would have collapsed because it had become part of the housing structure. For decades, residents simply tossed their garbage outside their front doors; apartment-dwellers used their windows. Richer families who tipped civil servants got an occasional pickup; the poor did not.

"When trash took over, there was no place for the kids to play, no soccer fields, and you even got used to the smell," Tianen said.

She wanted to move the dump from the Shiites' home turf, so she reached back to the Mississippi Valley District for satellite images of places available and acceptable.

**Map problem.** Once she picked a new site, Tianen conferred with Baghdad's mayor and governing council, and they hired a director-general of landfills and nine directors of sanitation for each of Baghdad's nine baladiya (sectors). She handed out maps of their areas of responsibility — a bold move since Saddam had removed all maps from universities and most ministries.

That led to "The Great Big Map Problem of Baghdad." Unfamiliar with their hometown's geography as seen from hundreds of miles up, the new sanitation satraps were dumbfounded. "No, that's not my city!" cried one. "You don't know what you're talking about!" shouted another. They also argued about the size of the maps, so Tianen went back to the cartographers and had them make every map the same size, color, and scale.



Susan Tianen teaches map-reading to Iraqi sanitation directors. (Photo courtesy of Los Angeles District)

The Baghdadis then complained that the maps didn't show any landmarks they could identify, so Tianen had military mappers include mosques, parks, fountains, and other features in their zones. "Everybody went running out to confirm," she recalls. "So we finally came up with maps we could communicate with them about."

**New system.** After maps came rules. Anyone caught dumping in another's territory had his vehicle confiscated for a day. All vehicles had to be named and numbered so they wouldn't be hired elsewhere for double-dip pay. Vehicles included back loaders and dump trucks, of course, but also wheelbarrows and donkey carts to negotiate narrow alleys.

Tianen's blueprint also needed office backup. The new Iraqi trashnocrats had never laid out a budget, never used a checkbook, didn't know what line-items were. Tianen had to teach them basic accounting which, among other things, forbids tipping — the baksheesh so common in Middle Eastern commerce.

Security worries meant that soldiers had to accompany garbage men. A military officer mentored each sanitation engineer, who mirrored them for a month. Then the military backed away. Inevitably, with such a brand-new system, there were problems. One district's efforts folded, others wobbled. Eventually, however, all the baladiya were fully operational with little oversight.

Before long, 200,000 day laborers were hired at \$3 a day, \$11 million total for Baghdad's cleanup program. By the time Tianen was ready to move onto her next mission, removing rubble and demolished buildings, Sadr City was the cleanest it had been in 10 years. "We needed to get money into the communities," she said. "We had to get them to start taking ownership of this."

**Criticism.** The improvement didn't impress everybody. "The cleanup has also provided new opportunities for corruption and child labor," the *Los Angeles Times* reported. "Families desperate to obtain the \$3 daily salary are sending tykes out in the street to join the garbage brigade," said the *Washington Post*.

Stung by the criticism, Tianen has reacted strongly. She insisted that the Iraqis comply with an age limit of 15 and, since there was no minimum wage, \$3 a day was a windfall



Debris and garbage choked the streets of Baghdad. (Photo courtesy of Los Angeles District)

for the poor. She had no idea that "mafia-type behavior" would lead to falsification of age and other records; plus it was tough to audit records in Arabic, and some workers couldn't even write their names.

Moreover, school was out so boys were free to do the work, which girls and women were not allowed to do. "Do you want to employ the kid, whose mother is a war widow and in desperate need of money?" Tianen asks rhetorically. "You can't balance that against standards in America," adding that many youth organizations join cleanup campaigns in the U.S.

**Bodyguards.** But even harsh newspaper critiques paled compared to being shot at three times. The first time, in a convoy, one of her personal security detail (PSD) yelled, "Susan, down!" She did, but still had not become aware when the second incident occurred, so she was thrown to the ground by her PSD. "The third time I still had my PSD and I felt I was OK," Tianen remembered.

Then, because only diplomats and general officers were authorized to have a military PSD, Tianen's guardians were transferred. She refused to go out on her own. "Even if I had been given a gun, I wouldn't have used it," she asserts. "I don't value my life above anyone else's life. But I would pick up one and use it in defense of one of my team members and soldiers."

Without an armed escort, Tianen did not venture out for three days. Then her PSD was restored, but at some cost to her reputation. "I wasn't being 'obstinate' and I didn't think I was better than anyone else," she insists. "I was just scared. I was willing to do my job, but I needed some level of security so I'd feel safe."

Her concerns were well-founded. Shortly after she returned to the U.S., she learned that her friend and confidant, Baghdad Deputy Mayor Faris Abdul Razaq al-Assam, was shot dead outside his home by unknown assassins.

Tianen had gotten to know him well, visiting his home several times where she met his wife and family. She had given him her photo CD titled "Uncommon Life" to take to the donors' conference in Spain. "He would probably have been the first elected president of Iraq," she said. "He showed the coalition the heart of an Iraqi, what the people of Iraq could aspire to be."

**Hope and doubt.** Tianen now views Iraq and Iraqis through the twin prisms of hope and doubt. Hope rests with the young. "The kids are going to be the beneficiaries, not the adults," she said. "The kids saw something they'll never see again — the American spirit! Every 18-year-old soldier who interacts with one child makes a huge difference. I don't think that child will be planting a bomb."

Her doubt pivots on the question of how long the military and civilian coalition stays in the country. "The Iraqis are very afraid that we're going to leave," she said. "Being a socialist country, there's no incentive for them to work on a timetable. It's not going to go as fast as America wants because they don't have the same goal — the Iraqis don't want the Americans to leave."

As for Tianen herself? "I'd go back," she said. "But my family doesn't want me to. 'So...'"



American military equipment crosses an aging MJ-100 pontoon bridge in Iraq as the Forward Engineers Support Team-Augmented assesses its condition. (Photo by Bryton Johnson)



Capt. Derek Ulehla (left), Hunter Dandridge, and Bryton Johnson pause during a bridge assessment. Their TeleEngineering Communications Equipment and armed HMMWV is in the background. (U.S. Army Photo)

# Tele-engineering gear aids bridge check

By Grant Sattler  
Coalition Provisional Authority

Europe District's Forward Engineer Support Team-Augmentation (FEST-A) recently showed the lengths to which U.S. Army Corps of Engineers teams will go to support the warfighter.

Assigned to the Combined Joint Task Force-7, the FEST-A responded to a request for information (RFI) from the 82nd Airborne Division operating in western Iraq to assess a bridge crossing the Euphrates River at Al Qa'im near the Syrian border.

## Critical mission

The 3rd Armored Cavalry Regiment (3ACR) was using the bridge frequently because of continued resistance by hostile forces north of the river. "They needed to know if the bridge would support the M-1 Abrams tank," said Capt. Derek Ulehla, FEST-A Team Leader. "They were already crossing with their M-2 Bradley Fighting Vehicles."

Hunter Dandridge, FEST-A team member, said the task was important. "It was a critical mission," he said. "They needed to know if they could use the bridge to pursue terrorists or insurgents."

## Hazardous bridges

There were two float bridges in the area, one placed in the 1980s (a Mabey-Johnson Compact 100 bridge), and a locally built pontoon bridge of unknown vintage that was considered hazardous. A new float bridge was on the way to the area to replace the local bridge, but for tactical reasons a valid load classification was needed on the MJ-100 bridge to allow the safe use of two avenues of approach to the north.

Combining the bridge assessment with another mission, the team of Ulehla, and FEST-A members Bryton Johnson and Dandridge traveled to the bridge location



Bryton Johnston in Iraq enters data into the Tele-Engineering Communications Equipment as he works with technical experts at the U.S. Army Engineer Research & Development Center in Vicksburg, Miss. (U.S. Army Photo)

with their TeleEngineering Communications Equipment-Deployable (TCE-D) that enables them to communicate with technical experts with the Corps' Engineer Research and Development Center in Vicksburg, Miss.

## Security

Joining up with the 3rd ACR, the FEST-A explained what it would take to accomplish the assessment, and the mission was set for the next day. Because the area was not entirely secure, the team went out in an up-armored HMMWV with a .50 caliber machinegun, accompanied by four Bradleys and two OH-58 Kiowa scout helicopters.

The group rolled out, and as security was established, the bridge assessment team set up the TCE-D for video teleconferencing and set to work on what normally would take the better part of a

day to accomplish.

"We measured the span, depth, and width of the pontoons," Ulehla said. "We measured the connections between the pontoons and the bridge, measured the trusses, bracing, the depth. We photographed everything. We looked for missing bolts, and found five gone."

Dandridge also noted corrosion on the underside of the steel decking.

"Of importance were the connections to the pontoon and the connection of the bridge structure to the framing structure," said Johnson. "On the shores we were crawling underneath through goat crap to get pictures and measurements of the cross beams. We smelled like a farm."

The sound of mortar fire in the not-so-great distance encouraged the group to work as expediently as possible.

"We were doing this in concert with ERDC," Ulehla said. "So we had the bridge expert right there giving us one or

two pieces of the equation. He would say look at this or that. We would go and look and take photographs and report back and give him some basic dimensions. Meanwhile, they're working on their side to ensure we're getting all the needed data."

## Fast work

The assessment was completed in just two-and-a-half hours.

"It was exhausting," Ulehla said. "We were hustling back and forth in the body armor, up and down measuring, with just a few stops for sips of water."

The team returned to the forward operating base to complete transmission that evening of all the data collected.

"It was as adventurous as any military project I've ever worked on," Ulehla said. "We were almost expecting mortar rounds to start splashing in the river like you see in the movies when we were out on the bridge."

For Johnson, it was his first project off-post in four months in theater where security was a real issue. "It was a possible target, and then having people watching and realizing that we're there for a while, out exposed on the bridge," he said.

## Reach-back teamwork

The success of the assessment is due to the ERDC team of Jeff Powell, Gerardo Velazquez, and James Ray who were "...up in the middle of the night to support us," Ulehla said.

Johnson said the reach-back team contacted the original manufacturer of the bridge to see if it could be repaired and brought back to its original load classification. "They said it really wasn't feasible because of all the missing parts," Johnson said. "The components are no longer manufactured."

As a result of the assessment, the 3rd ACR was given a valid load classification within two days based on the current condition of the pontoon bridge.

# Cold War missile site dismantled

By Mary Beth Thompson  
Baltimore District

Dismantling the missile silos at the former Tolchester, Md., Nike Missile Site completed in June was the passing of an era.

"This is the end of the Cold War," said Art Smit as he watched a bulldozer work on the final silo closure. Smit, of Baltimore District's Environmental Remediation Resident Office, is the project's remediation field manager.

**(Editor's note: Research indicates that "silo" is a generic Cold War term for many different ground-based enclosures that sheltered missiles.)**

Most U.S. Army Corps of Engineers employees were born during the Cold War and can easily recall the arms race as the U.S. and the former Soviet Union built weapons and defense systems against the other's military might.

That antagonism is now part of history, but much of the infrastructure that supported the arms race still dots the country. Nike sites encircled major U.S. cities like Washington, D.C., Baltimore, New York, and San Francisco. The six underground silos at Tolchester once held radar-guided surface-to-air missiles critical to the rings of protection surrounding Baltimore and Washington.

Until recently, only the 40-by-9-foot metal doors, the concrete pads that surrounded them, and the silo access stairwells could be seen from above ground. Below ground, thick concrete walls, ceilings, and floors outlined large, rectangular enclosures about 63 feet long by 50 feet wide by 16 feet deep.

"Some silos were bigger and some were smaller," said Pete Garger, the project manager for contractor Plexus Scientific. "They were about 1,800 to 2,000 cubic yards apiece." Baltimore District employed Plexus to permanently close the silos at Tolchester.

"These silos were built in one continuous pour," said Vince Barber, Plexus's site manager, describing the construction method that would have made it difficult and expensive to demolish and remove the subterranean structures.

The closure project began in April 2002 with enough funds to finish one silo closure by May 2002. In January, with additional money available, Plexus returned to Tolchester to plug the other five.

"We were fortunate to find funding, a combination of year-end and prior-year funds, to accelerate the project," said Jack Butler, Baltimore District's project manager. The total effort cost about \$1 million.

## The procedure

"The first thing we do is remove all the water," Barber said. Plexus found the silos about half full of water from rain and percolation from the ground. The contractor tested the water and, with permission from the Maryland Department of the Environment, pumped the uncontaminated water onto nearby land at a controlled rate.

Workers then cleaned the silos of de-



This silo once held radar-guided surface-to-air Nike missiles near Baltimore. (Photo courtesy of Baltimore District)



Heavy earthmoving equipment fills an old Nike missile silo with earth and rock. (Photo courtesy of Plexus Scientific)

bris and cut off the huge steel doors. They removed the piping and the residual hydraulic fluid from inside the silos. Plexus later turned the hydraulic fluid over to a recycler.

"Then we remove the platform, the structure under the platform, and then the ram unit," Barber said. A subcontractor took out and disposed of the asbestos from inside the silos. Plexus knocked holes in the silo floors to allow water to drain.

Next, Barber and his crew placed pea stone in a six-inch layer across the bottom of the main silo enclosures, then a sheet of fabric, and about four inches of sand. Then, they built gravel ramps so that a small bulldozer could roll in from ground level.

The bulldozer spread the fill material (pea stone, debris, sand, and gravel) evenly inside the silos. An excavator pressed the fill into the overhead voids between the hefty concrete ceiling beams.

Each silo included an enclosed office area accessed by a single door. To fill these, the contractor scraped the earth off the office areas and collapsed the ceilings.

Then they filled the office areas with pea stone.

When the silo cavities were packed, the bulldozer came out, the openings were covered with dirt, compacted, and mounded slightly to offset future settling.

## Lessons learned

Along the way, Plexus applied knowledge gained last year from the closure of the first silo. For example, Barber brought in a larger excavator for silos two through six.

"It can lift bigger pieces of steel," Barber said. "Then I can size and cut it better in an open space."

According to Garger, they also adjusted the work sequence. Rather than completing one silo at a time, a staggered system proved more efficient.

"As we were working on one silo, we'd be pumping water from another silo," Garger said. "We'd get that one straightened out to where the asbestos work could be done. In that way, the asbestos subcontractor and the Plexus workers would

be working in separate silos and not holding each other up."

Butler, who also serves as Baltimore District's program manager for Formerly Used Defense Sites (FUDS) sees the techniques developed during the Tolchester effort as a plus for other similar projects.

"The lessons learned from this experience will be applied to a number of Nike silo closure projects in Maryland and Pennsylvania in the years to come," Butler said.

## Owner benefits

The Army transferred the former Nike launch and control areas to Kent County in 1978. The county stores roadwork supplies and equipment on the 22-acre parcel, situated near the Chesapeake Bay in a remote area on the western fringe of the county.

"Safety is the big thing," said Carter Stanton, Kent County public works director, commenting on what the silo closure means for the county. The huge silo doors had been welded shut, but vandals broke the welds and the silos were considered unsafe for supporting heavy materials. Now that the silos have been filled and covered, the county is able to use that property for storage.

"It certainly does give us more area to work," Stanton said.

## Cleanup nearly complete

The Tolchester installation is one of 47 FUDS that Baltimore District is currently cleaning up. The Tolchester site was active from 1954 to 1977. It included a control area and a launch area. The district removed nine underground storage tanks from the control and launch areas in 2000.

A third cleanup action is ongoing. That action involves low-level groundwater contamination with trichloroethylene (TCE, a solvent) at the launch area. The TCE contamination is expected to lessen naturally over time. The Corps samples the groundwater twice a year to determine whether that is happening as anticipated.

"Monitored natural attenuation is doing what it's supposed to be doing," said Curtis DeTore, Maryland Department of the Environment (MDE), who oversees the groundwater cleanup for the state. "We've been taking groundwater samples, and they've shown, basically, what we thought they were going to show."

"We've completed the first two years of monitoring," Butler said. "We've seen some changes in the groundwater, but we want to see more evidence. We'll continue to monitor until we reach a joint decision with MDE."

Butler estimates the monitoring could be needed for another one or two years. "We want a good, solid, scientific case that natural attenuation is working before we close the project out," he said.

With all traces gone of the six silos and the nine underground storage tanks, only the groundwater monitoring remains of the Tolchester FUDS projects. The site is quiet as the Cold War fades away.

# Savannah District builds new home for Army's champion skydiving team

Article by Mindy Anderson  
Photo by Maurice Meekings  
Savannah District

The Army's premier competition skydiving team, the Golden Knights, will soon have a new home. After years of working out of seven World War II barracks at Fort Bragg, N.C., the Army's only official aerial demonstration team will finally have a building worthy of world champions.

"The buildings we occupy now are slated to be destroyed in 2004," said Maj. David Standridge, the Golden Knights' Executive Officer. "The former Fort Bragg Commanding General, Lt. Gen. Hugh Shelton, and the former Army Parachute Team Commander, Lt. Col. Danny Green, have both fought vigorously to move the Knights into a new building this year."

## Old buildings

The buildings are more than 50 years old — two-story wooden barracks built during World War II and renovated dozens of times. Similar buildings in the surrounding area have been long since demolished.

But soon that will all change as Installation Project Manager Lance Locklear of Fort Bragg's Public Works Business Center, Marcia Meekins of Savannah District, and contractors begin building the Golden Knights' new headquarters. Their goal is to achieve a gold rating using the Army's Sustainable Project Rating Tool (SPiRiT).

"SPiRiT is the Army's adaptation of the U. S. Green Building Council's Leadership in Energy and Environmental Design Building Rating System," Locklear said. Construction projects are rated for sustainability in eight categories — sustainable sites, water efficiency, energy



The Golden Knights' new headquarters will gather all operations of the Army's champion skydivers under one roof for the first time in the team's history. (Artwork courtesy of Savannah District)

and atmosphere, materials and resources, indoor environmental quality, facility delivery process, current mission, and future missions."

There are four SPiRiT levels, based on the total project points earned. The levels are 75 points for platinum, 50 points for gold, 35 for silver, and 25 for bronze. Points are awarded based on the types of materials used, and the installation will eventually work toward all new buildings meeting the gold standard.

## Gold standard

"Gold is a tough standard to achieve," Locklear said. "The original standard for this facility was bronze, but the contractor is trying to achieve a gold rating. For example, points are awarded for using one type of bathroom fixture versus another because it uses less water. Achieving a gold rating is about choices of materials and manufactured products contractors must use. Eventu-



ally, the Army will require a gold standard for all new facilities. We'll invest the money in achieving those standards."

## Excitement

Standridge said he and other members of the Golden Knights have been excited about their new headquarters since the groundbreaking ceremony Jan. 16, 2003.

"We can't wait to move into the new building," Standridge said. "We'll finally have a place to call home. This will give us a centralized building where we no longer have to leave one building to go to another just to use the latrines."

"The Golden Knights became a part of the U.S. Army Recruiting Command in 1996 and one of the things we had in mind when we were working on this contract was to showcase the facility for recruiting," Meekins said.

The building is slated for completion in March 2004.

HR Corner

# Educators work hard at Corps school

By Gary Andrew  
Professional Development Support Center

Quality training doesn't just happen. It takes the coordinated efforts of instructors, course managers, subject matter experts, proponents, and administrative staff.

The educators at the Professional Development Support Center (PDSC) work closely with their faculty of instructors and subject matter experts to form a project delivery team that employs a proven systematic process for developing the U.S. Army Corps of Engineers' Proponent Sponsored Training (PROSPECT).

We call this process the Corps of Engineers Systems Approach to Training (COESAT). The procedures followed in COESAT closely align with the business process model — Initiate, Plan, Execute/Control, Close-Out.

Divided into five closely related steps, the life cycle of a course of instruction is determined through analysis of the training need (Initiate), design of the needed intervention to include mode of delivery (Plan), development of the instructional materials (Plan), implementation of the course of instruction (Execute/Control), and evaluation of the effectiveness (Close-Out).

Ensuring training meets the needs of the intended audience is a function of the analysis and design phases of COESAT. Specific learning objectives are written that guide course content and testing. Writing clear learning objectives will answer the question, "What will the learners be able to do when they finish the training program?" Objectives prescribe the behavior (Action), conditions, and standard for performance of the task being trained.

An objective tells the student what will be expected upon completion of training. Without well-constructed objectives, instructors don't know what to teach, and learners don't know what they will learn.

Development builds on the learning objectives produced during the design phase. The development phase produces the delivery methods, such as graphics presentations, films, lecture, CDs, etc., a review of existing material, and master training materials or instructional courseware. During this phase, training developers combine the courseware into a viable training program and validate instruction to ensure it accomplishes all objectives.

Many activities must occur during the implementation phase (Execute/Control) of training to ensure success. Instructors are selected and trained to use the approved master training materials. Instructors administer the test instruments designed to measure accomplishment of the training objectives. As a minimum, each student must complete the following: a pre-test, a post-test, and an end-of-course evaluation.

The ultimate goal of the COESAT is to provide quality training based on identified job requirements. In the previous four steps, we identified the target audience; described and substantiated the needs; and designed, developed, and implemented the training. In the fifth step, evaluation (Close-Out), PDSC personnel determine whether they have accomplished their goals, i.e., did the training actually teach the students to perform the tasks that comprise their jobs, and did the instructors teach what they were supposed to teach?

A well-rounded evaluation program consists of four distinct levels modeled after the work first documented by the well-known author and speaker Donald Kirkpatrick in his book "Evaluating Training Programs: The Four Levels." The PROSPECT Program currently employs Levels 1-3 on a regular basis, and is developing a Level 4 application.

PDSC personnel and their instructor teams place tremendous emphasis on evaluating the quality of our courses. Using proven evaluation methods have not only ensured the validity of the course of instruction and its impact on the student, their supervisors and their organizations, but has ensured the continuity of the tuition reimbursed PROSPECT program as well.

The quality standards for the PROSPECT program enable the PDSC to provide additional employee benefits such as the documentation needed to award Professional Development Credits, and thereby support the continuing education needs of USACE employees requiring Professional Licensing and Certification.

Credits are available for about 100 different courses through our affiliation with the International Association for Continuing Education and Training (IACET), the National Society of Professional Engineers, the American Institute of Architects and, most recently, the Project Management Institute.

The next annual PROSPECT Survey of Training Needs will be conducted April 1-May 15. Current program course availability and registration information may be obtained at <http://pdsc.usace.army.mil>, or by calling the registrars at (256) 895-7425 or (256) 895-7464.

# SES jobs under USACE 2012

These are the Senior Executive Service assignments under USACE 2012. Permanent assignments depend on DA approval of new job descriptions. The implementation team will address the timing of these assignments.

## Washington, D.C.

Robert Andersen, Chief Counsel/Legal Community of Practice (CoP).

Kris Allaman, Corporate Integration Directorate/Installation Support CoP.

Don Basham, South Atlantic Division (SAD) Regional Integration Team (RIT), Engineering & Construction CoP.

Dwight Beranek, Deputy Director, Directorate of Military Programs.

Wil Berrios, Director, Corporate Information CoP.

Fred Caver, Deputy Director, Directorate of Civil Works.

Steve Coakley, Director, Resource Management (RM) CoP.

Bill Dawson, Mississippi Valley Division (MVD) RIT/Planning CoP.

Susan Duncan, Director, Human Resources/Human Resources CoP.

Linda Garvin, South Pacific Division (SPD) RIT/Real Estate CoP.

Bunny Greenhouse, Principle Assistant Responsible for Contracting/Contracting CoP.

Ed Hecker, Chief, Homeland Security (HS) Office/Northwestern Division (NWD) RIT/Emergency Management & HS CoP.

Tony Leketa, North Atlantic Division (NAD) RIT/International Interagency Support CoP.

Mike O'Connor, Pacific Ocean Division (POD) RIT/Director of Research & Development (R&D)/R&D CoP.

Pat Rivers, Southwestern Division (SWD) RIT/Environmental CoP/DoD Team.

Craig Schmauder, Deputy Chief Counsel.

Joe Tyler, Military Programs PID.

Barbara Sortorin, Deputy Director, R&D.

Rob Vining, Civil Works PID/Programs Management CoP.

Mike White, Great Lakes & Ohio River Division (LRD) RIT/Operations CoP.

## Other locations

Robert Burkhardt, Director, Topographic Engineering Center.

Jeff Holland, Director, Information Technology Lab.

Jim Houston, Director, Engineer Research & Development Center (ERDC).

Alan Moore, Director, Construction Engineering Research Lab.

Walter Morrison, Deputy Director, ERDC

Tom Richardson, Director, Coastal & Hydraulics Lab.

Steve Browning, SPD Programs Director (PD).

Steve Stockton, SPD Regional Business Director (RBD).

Ed Theriot (acting), MVD PD.

Louis Carr, MVD RBD.

Dan Hitchings, MVD RBD.

Karen Durham-Aguilera, NWD PD.

Dwight Burns, NWD RBD.

Gene Ban, POD PD.

Frank Oliva, POD RBD.

Gerald Barnes, LRD PD.

Chris Hinton-Lee, LRD RBD.

Les Dixon, SAD PD.

Paul Robinson, SAD RBD.

Tom Waters, NAD PD.

Mohan Singh, NAD RBD.

Gary Loew, SWD PD.

Bob Slockbower, SWD RBD.

# Around the Corps

## Bahrain project

A new project in Manama, Bahrain, will consolidate activities in more than 20 buildings at the Naval Support Activity into one facility. Transatlantic Programs Center oversees the project.

A groundbreaking ceremony on Nov. 24 started the Installation Service Support Center project. Among those attending the ceremony were the Hon. Gordon England, Secretary of the Navy; Capt. William Gortney, Chief of Staff for U.S. Naval Forces Central Command; Capt. Jay Smith, Commander, Naval Support Activity; and Col. Albert Bleakley, the TAC's Gulf Regional Engineer.

The Naval Support Activity is the permanent shore base for the U.S. Navy in the Arabian Gulf, providing facilities and administrative support to U.S. Naval Forces Central Command.

The Installation Service Support Center was awarded to Contrack International on Sept. 24 for \$25.7 million, with construction to be complete by February 2006.

The project will consolidate several personnel support functions into a single facility, including dining and food services, shopping, banking, fitness and recreation, and Morale, Welfare, and Recreation administrative offices.

This project is the latest to enter the construction phase in the Navy's aggressive design and construction program that began in 1997. Working with the Navy, TAC has designed and built three barracks buildings, a medical/dental clinic, a quality of life center, an operations center, and other infrastructure improvements.



The Navy destroyer *USS Chafee* passes Fort Popham following a channel newly dredged by New England District. (U.S. Navy Photo)

## Kennebec River dredging

Thanks to New England District, a Navy warship is now safely at sea. Emergency dredging in the Kennebec River in Bath, Maine provided passage for the *USS Chafee*, a destroyer scheduled to transit the channel.

Hydrographic surveys of the Doubling Point and Popham Beach areas revealed that the channel had shoaled to critical levels, causing concern that the *Chafee* could not transit the channel safely even with the predicted high tide.

Because the ship was deemed critical to national defense, and due to limited time to perform the work, NED invoked its emergency authority.

The hopper-dredge *Padre Island* from Sabine, Texas removed about 9,000 cubic yards of material from the Doubling Point area, and about 14,000 cubic yards from the Popham Beach area.

Emergency dredging operations were completed on Oct. 10, clearing the channel of the restrictive shoals, and allowing the *USS Chafee* to depart Bath Iron Works safely.

## Hiram Chittenden Awards

Five Corps employees were honored recently in Sparks, Nevada where more than 1,100 people attended the annual National Association for Interpretation Workshop. Awards were presented on Nov. 13 to outstanding em-

ployees of the Corps, Bureau of Land Management, U.S. Fish and Wildlife Service, Forest Service, and National Park Service.

The Corps' Hiram M. Chittenden Awards are given annually in honor of Hiram Chittenden, a Corps officer, historian, and champion of natural resources.

Gregory Miller, a natural resources specialist with Kansas City District received the Corps' top national honor as Interpreter of the Year.

Chittenden Regional Award winners were Joseph Kolodziej, a park ranger at Burnsville Lake in Huntington District; Michael Lapina, a park ranger at Lake Lanier in Mobile District; Leah Morrow, a park ranger at Saylorville Lake in Little Rock District; and Thomas Brooks, a retired park ranger from Enid Lake Field Office in Vicksburg District.

## Corrections

There were two errors in the December issue of *Engineer Update*.

Representative David Hobson of Ohio is the Chairman of the House Energy & Water Appropriations Subcommittee, not the Chairman of the Defense Appropriations Committee.

Doris Sullivan of St. Paul District is not the Architect of the Year. She was inducted into the American Society of Landscape Architects' Council of Fellows.

## Norwegian cleanup

The Environmental Laboratory (EL) is partnering with a Norwegian company to manage contaminated sediments. Along the Norwegian coast, especially in harbors and fjords, high levels of hazardous chemicals have been found in seabed sediments.

Norway recently passed legislation to develop plans for cleaning up its coastal waters. One company involved in this cleanup is Biologge AS. The Environmental Laboratory has entered into a Cooperative Research and Development Agreement (CRADA) with this company.

Under the CRADA, EL researchers will help develop plans for the cleanup process. They will participate in workshops and meetings; provide technical expertise to assess contaminated soils and debris, and in evaluating the resulting data; provide lab facilities and personnel to conduct studies on soils and debris; and provide expertise in the design and implementation of field demonstration programs.

In exchange, Biologge AS will provide samples of contaminated soils and debris to EL; coordinate the planning and implementation of field demonstration programs; fund technical assistance provided by EL personnel; and share the results of all studies.

## Picatinny project

New York District awarded its largest 8(a) contract to a joint venture firm to design and build High Energy Propellant Formulation Facilities at the Research, Development, and Engineering Command at Picatinny, N.J.

The district awarded the contract to Hirani/MES, JV, of Brooklyn, N.Y.

According to Jeffrey Frye, project manager, "What makes this 8(a) contract award unique is the value going to one firm. Usually 8(a) contracts are awarded at \$2 to \$5 million. This one is \$16.5 million."

An 8(a) contract is awarded to a small business that has been certified by the Small Business Administration. DoD must make a certain percentage of its contract awards to small businesses in each fiscal year.

Hirani/MES, JV, was awarded a contract to design and build a complex to produce new propellants to fire the next generation of warheads and weapon systems. Presently, Picatinny is conducting this work in 34 buildings on the 6,500-acre installation.

These new facilities will consolidate operations into a complex of 18 buildings near one another that will carry out all stages of propellant development.

The complex is scheduled for completion in 2006.

# USACE 2012

## Continued from page one

You ask, "Where's that working in the Corps, Chief?" Well, what did Civil Works do about a year-and-a-half ago? They created some division-focused teams to do work. Very traumatic when we first put them together, but the feedback from the field was enormously positive.

The other example is the Arizona Area Office in L.A. District. Pretty good-sized area office, and they've reorganized so everybody sits in regionally focused, cross-functional teams. They have regulators, contract representatives, counsel, contracting, engineering and construction, all sitting on a team. And everyone in those cross-functional teams works together on the challenges in their particular region of the Arizona area.

You walk into that floor of the federal building in downtown Phoenix and the energy just pulses out of the door at you. They enjoy going to work. It's challenging. They're learning something new.

## Cyberspace

Operating virtually. My best example is what we did with the Panama Canal. In January of 2002 we got the mission from the Panama Canal Authority to provide a concept design for replacement locks so they could handle post-PANAMEX vessels.

It was a big job, and we don't have that expertise in any one district. So we put together a project delivery team. We put some members of the Panama Canal Authority on the team. The district where the work resides is Mobile District, so Mobile provided the project manager. We had 10 districts working on that project. They met once face-to-face; the rest of their meetings were virtual, using e-mail, conference calls, video teleconferences, and other electronic communications.

We delivered that product in nine months, to the delight of the customer. Now we're doing six more jobs with them, and we'll probably soon open an office in Panama.

## Communities

Communities of Practice. Well, we've been doing that informally for a long time. Don't we get the Human Resources people together now and then? Get the regulators together now and then? Well, we're going to formalize that, and our Communities of Practice will maintain our technical competence. I'm not just talking about engineering and science; I'm talking about *all* areas where we need technical competence.

Each Community of Practice will be responsible for laying out the professional development paths for that community, and for making sure that members of that Community of Practice serve effectively on teams.

More to follow on this. We used our Project Delivery Team Conference in San Diego in November to put some of the best minds in the Corps to work on this... How do we stand up these Communities of Practice? How do we enable them?

If you want an example of where this has worked well in the Corps, look at our natural resource people. On their own, they formed a Community of Practice. They meet periodically, and they established a knowledge management system. It's a website called The Gateway where they placed their best practices, and names of people to contact if you're working on a subject. They've even opened their Community of Practice to other agencies who do the same sorts of things.

## Accepting risk

Process improvements for greater efficiency and effectiveness, and accepting some risk... Do you know how we evolved our processes in the past? Well, we always started with a fairly sane process. But if something bad happened, we would put another step in the process to ensure that it never happened again. And we kept adding these things, and pretty soon you get a pretty convoluted process.

Very low risk of anything ever going wrong, but what are you doing to your cost-sharing partners and custom-



Headquarters employees listen as the Chief of Engineers explains USACE 2012. (Photo by Marti Hendrix, HECSA)

ers? "You all aren't listening. Your processes are daunting; we don't understand them. You don't partner like a partner. When we deal with one part of the Corps, it's not like dealing with another part. We're frustrated!"

So we have to become less risk-adverse, and more committed to delivering in a timely fashion. By having Regional Integration Teams here in Headquarters, and district support teams in the Regional Business Centers, we will be able to monitor the process to enable people to do their jobs better.

How did we do things in the past? Well, the district designed a project. They shipped the project up to division. Division looked at it, and they might return it. Once they thought it was OK, they shipped it up to Headquarters and we looked it over. Well, we might find some policy issue with it. What happens then? All the way back down to the district. All this could take considerable time.

Under the new paradigm (the cross-functional, regionally focused teams), everybody will look at a project as it happens, so issues will surface quicker. They will get resolved much sooner, and we'll end up with a better product, faster.

You say, "Well Chief, I'm not comfortable because we don't have two or three layers of review." That's where being less risk-adverse comes in. We've got to become comfortable with quality reviews, but less of them.

And we have already begun implementing this. There are implementation plans from all the Regional Business Centers that must be back in here by Dec. 12. We will turn them quickly, and our intent is to begin implementation soon. By Jan. 5, people on Regional Integration Teams in Headquarters will know where they will be working, where their position is, and if their position is an enduring one in this organization.

## No one RIFed

We're going to conduct a mock RIF in Headquarters beginning next week, and shortly thereafter we will notify those whose positions are not going to be permanent.

Now, I've been in the Army for 35 years. I have never RIFed an employee, and I do *not* intend to start now. We are conducting this mock RIF because we plan to shape this organization with some traditional tools, VSIP and VERA (Voluntary Separation Incentive Pay, and Voluntary Early Retirement Authority). We have to conduct

this mock RIF to identify positions we can VSIP and VERA.

## Why reorganize?

So, back to why we're doing this. The nation cannot afford to have what happened to the Civil Aeronautics Board happen to the Corps of Engineers. The CAB was a pretty powerful federal aviation agency. But President Reagan deregulated the airline industry and changed the CAB's environment. They had an opportunity to change their culture, but they said, "We like the way we've always been, so we're not changing."

Where is the Civil Aeronautics Board today? It doesn't exist. They broke 'em up and gave their functions to other federal agencies.

We can't let that happen to the Corps of Engineers, because we're too vital to this nation. The country has become comfortable turning to us, giving us the tough ones, and having us come through. Whenever we transition from

peace to conflict, or from conflict back to peace, we're the go-to agency.

I got called to testify before Congress a couple of months ago. Congress wanted to know if we have any plans to do away with the Corps of Engineers. One question they asked was, "General, give us an example of another country that has a Corps of Engineers and how it operates."

And I said, "I can't, because no other country has anything like the U.S. Army Corps of Engineers. We're unique, and I think it gives our country a tremendous advantage."

Right now, the Corps of Engineers' services are in great demand in Iraq. What other federal agency can do infrastructure? We rebuilt Greece from 1947 to 1949. Athens District was our first district outside the U.S. Kuwait — some of you worked there. Saudi Arabia — we built the infrastructure for its armed forces.

So we can't let what happened to the Civil Aeronautics Board happen to the Corps of Engineers. We must reorganize ourselves to remain the agency of choice. We have to operate more like a business, because our customers have other choices. We must always work to get better. That's what the learning organization does for us. That's what operating virtually will help do. And becoming a team of teams is a key enabler.

